

CONTINUOUS PREPARATION OF 4,4'-
DIISOPROPYLBIPHENYL

ABSTRACT

[0056] A continuous flow process has been discovered for the highly selective isopropylation of biphenyl to 4,4'-diisopropylbiphenyl. Thus biphenyl and propene in decalin are passed through a solid catalyst bed contained in a flow reactor at moderate temperature (220°C) and pressure (10-30 atm) together with a continuous stream of nitrogen. The catalyst is an acidic zeolite catalyst having a molar ratio of SiO_2 to Al_2O_3 in a range between about 20 to 1 and about 500 to 1. Optimal catalytic performance is achieved when 35% or more of the active sites in the catalyst have an activation energy of ammonia desorption in a range between about 145 kJ/mol and about 170 kJ/mol. Additional enhancements of catalyst performance can be achieved by pretreating the acidic zeolite catalyst with a volatile basic agent prior to the alkylation reaction.